Schedule Review

WBS 1.1, Vertex Magnet, Muon Toroids and Beam Pipes

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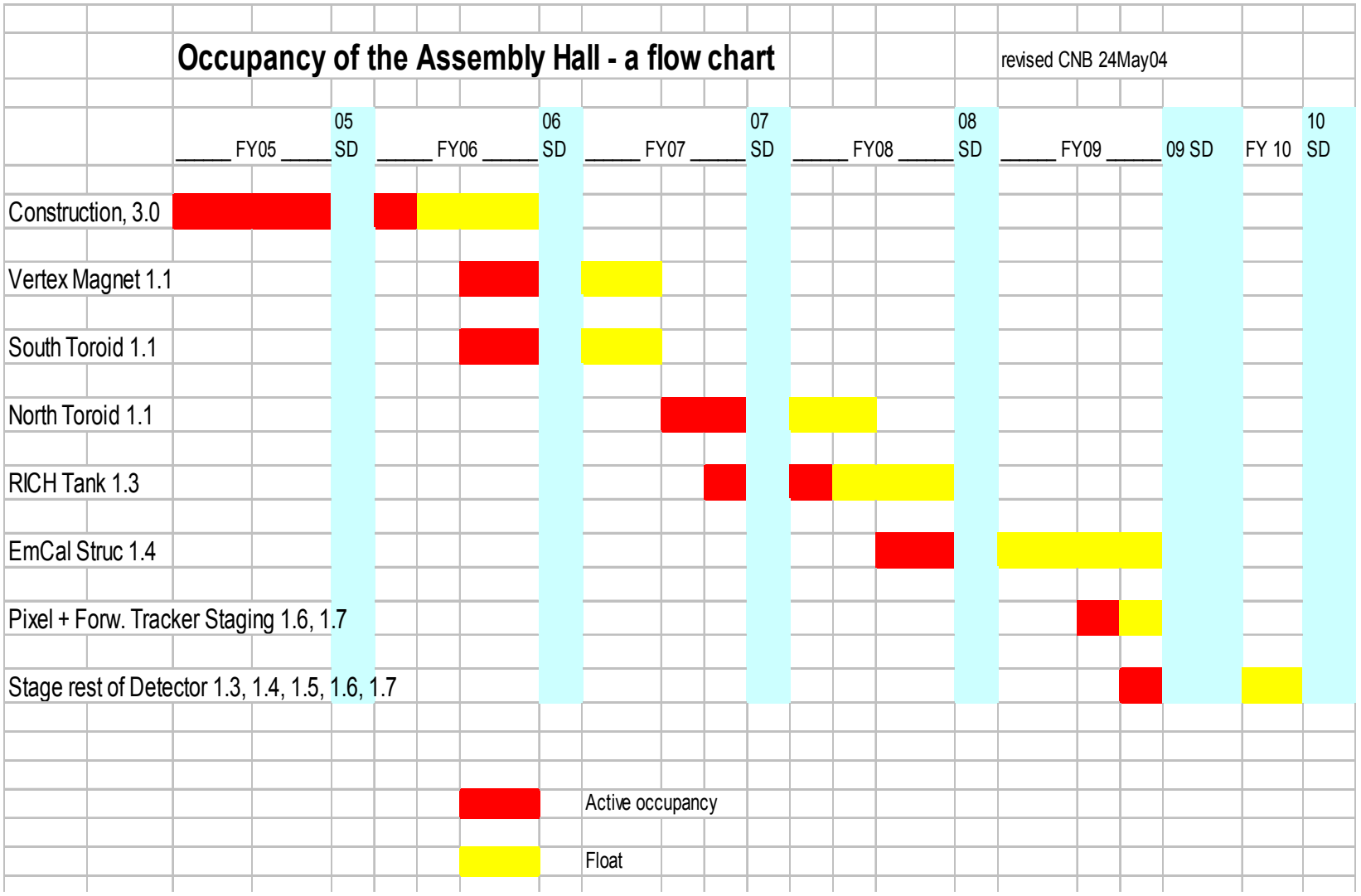
WBS 1.1 - Vertex Magnet, Toroids and Beam Pipes

- The Vertex Magnet and Toroid schedules are driven mostly by the scheduling of the 30-ton crane in the Assembly Hall; they need to be finished so that the RICH tank and EmCal structure can be assembled in the Assembly Hall

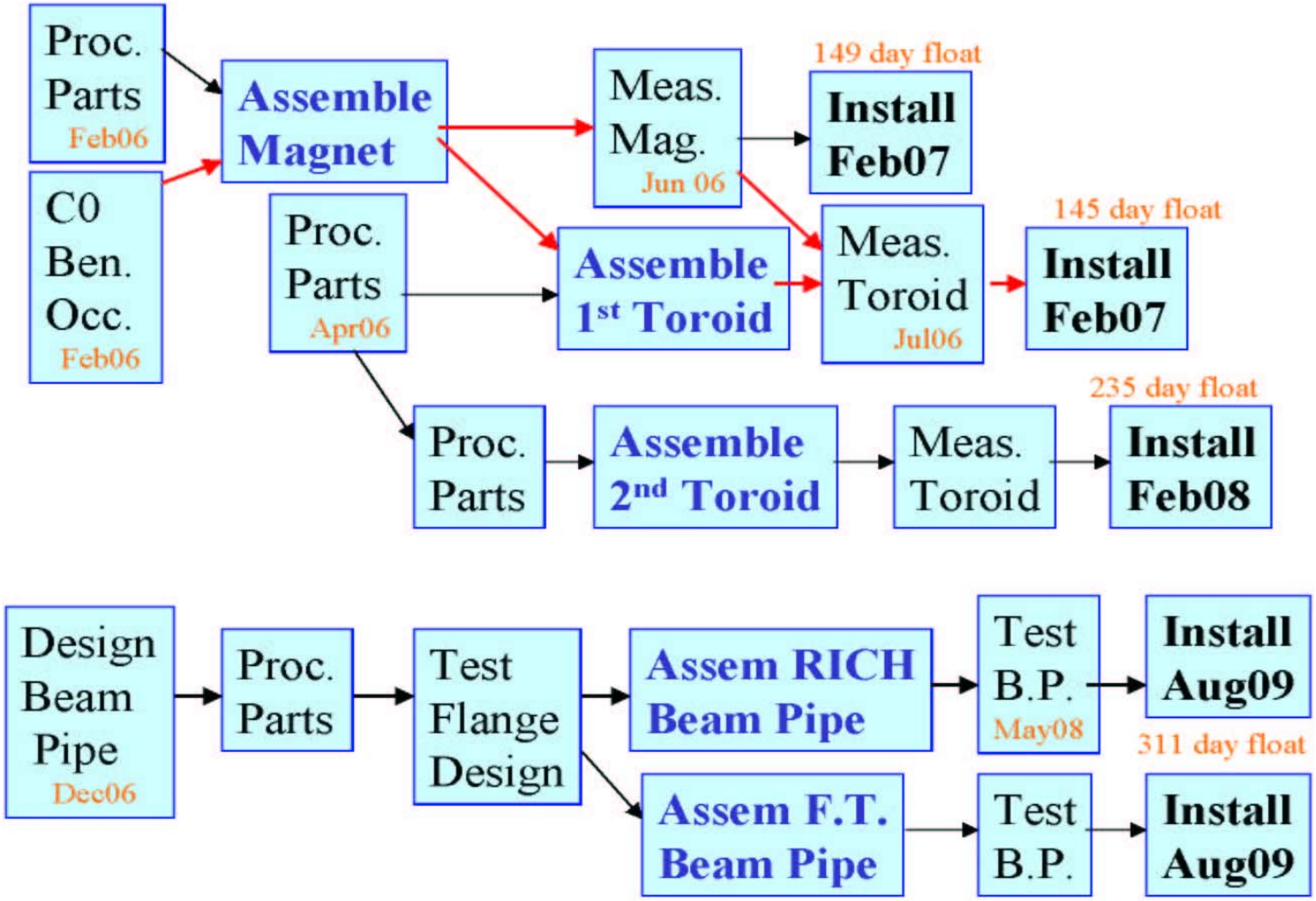
- The start of the beryllium beam pipe procurement can be comfortably delayed until FY07 - to help with funding profile concerns

- The staging of the Vertex Magnet and Toroid construction, which follows from the space constraints in the Assembly Hall and the Installation sequence in the Collision Hall, has not changed since the CD-1 review.

Assembly Hall Constraints WBS1.1



Flow Chart WBS1.1



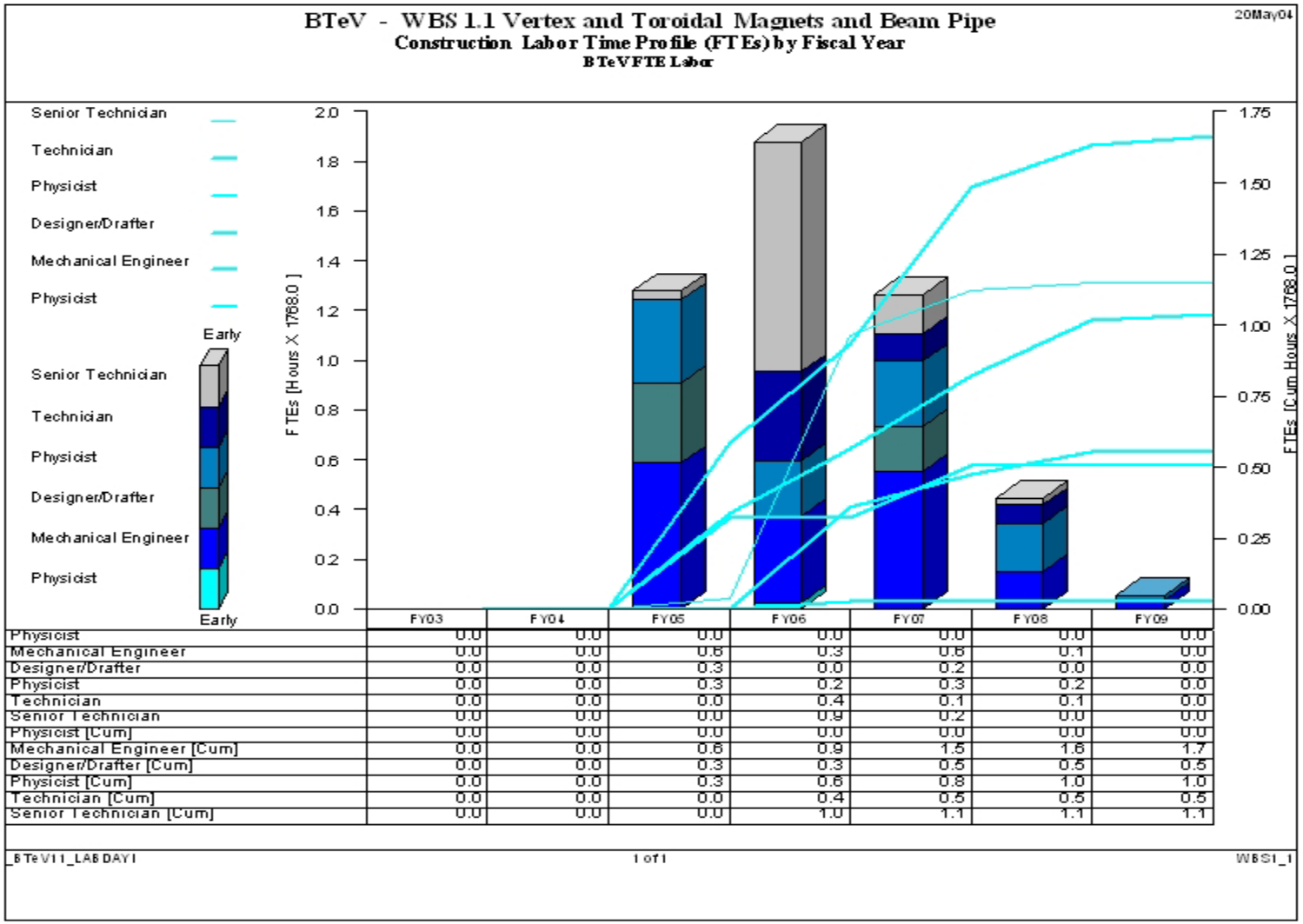
- Vertex Magnet Ready (Total Float = 149 days)
  - The vertex magnet assembly needs to be finished so that the assembly of the 1st toroid can begin.
- 1st Toroid ready (Total Float = 145 days)
  - The installation of the 1st toroid can be delayed to a short shutdown in FY07 if necessary with little overall schedule impact.
- 2nd Toroid ready (Total Float = 235 days)
  - The installation of the second toroid can be delayed to a short shutdown in FY08 if necessary with little overall schedule impact.

Critical Path Analysis, cont. WBS 1.1

- RICH Beam Pipe ready (Total Float = 311 days)
  - The funding for the beam pipes does not start until FY07. The RICH beam pipe will be installed in FY09. It is not needed until the 3rd week of the FY09 shutdown (a temporary 2" Aluminum pipe will be installed in 2008)

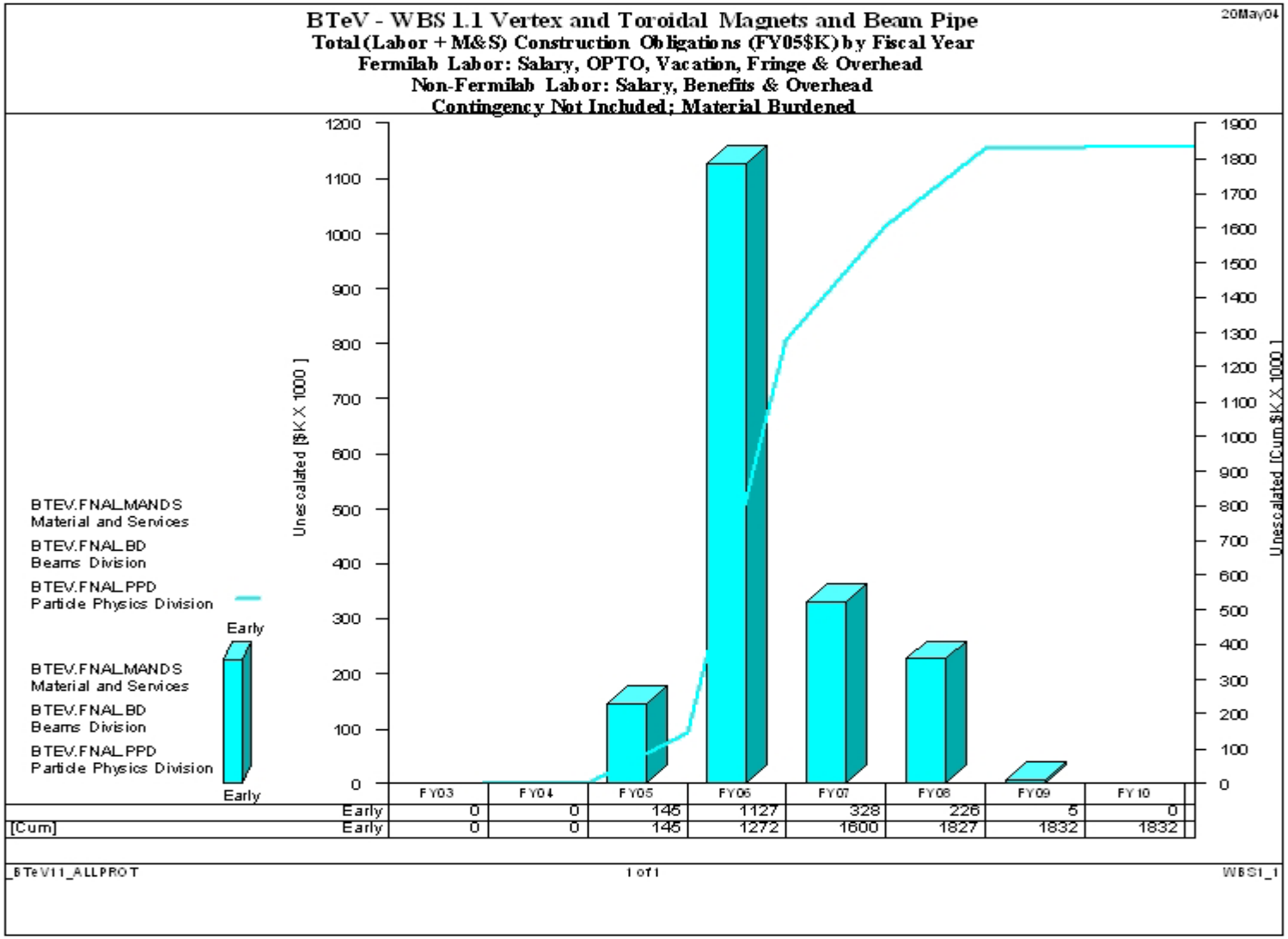
- Forward Tracking B. P. ready (Total Float > 311 days)
  - The funding for the beam pipes does not start until FY07. The F.T. beam pipe will be installed in FY09, after the RICH beam pipe.

Labor Profile (FTE) vs FY WBS1.1



	FY03	FY04	FY05	FY06	FY07	FY08	FY09
Physicist	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mechanical Engineer	0.0	0.0	0.6	0.3	0.6	0.1	0.0
Designer/Drafter	0.0	0.0	0.3	0.0	0.2	0.0	0.0
Physicist	0.0	0.0	0.3	0.2	0.3	0.2	0.0
Technician	0.0	0.0	0.0	0.4	0.1	0.1	0.0
Senior Technician	0.0	0.0	0.0	0.9	0.2	0.0	0.0
Physicist [Cum]	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mechanical Engineer [Cum]	0.0	0.0	0.6	0.9	1.5	1.6	1.7
Designer/Drafter [Cum]	0.0	0.0	0.3	0.3	0.5	0.5	0.5
Physicist [Cum]	0.0	0.0	0.3	0.6	0.8	1.0	1.0
Technician [Cum]	0.0	0.0	0.0	0.4	0.5	0.5	0.5
Senior Technician [Cum]	0.0	0.0	0.0	1.0	1.1	1.1	1.1

Cost (without contingency) vs FY WBS1.1



Total Cost (with contingency) vs FY WBS1.1

Activity ID	Activity Name	Material ($)	Labor ($)	Base Cost($)	Material Contingency (%)	Labor Contingency (%)	Total FY05	Total FY06	Total FY07	Total FY08	Total FY09	Total FY05-09
1.1.1	Vertex Magnet	427,834	159,208	587,042	26	24	101,871	634,930	0	0	0	736,801
1.1.2	Muon Toroids	712,303	161,515	873,818	29	23	57,019	781,046	280,786	0	0	1,118,852
1.1.3	Beam Pipes	223,206	115,440	338,646	16	26	0	2,846	165,119	237,544	0	405,509
1.1.4	Magnet & Beampipe Software	0	0	0	0	0	0	0	0	0	0	0
1.1.5	Integration & Testing	0	0	0	0	0	0	0	0	0	0	0
1.1.6	Vertex/Toroidal Mags and BeamPipe Subproj Man	8,816	58,342	67,158	25	25	19,155	19,460	19,231	19,231	6,868	83,947
1.1	Subproject 1.1	1,372,159	494,505	1,866,664	26	24	178,045	1,438,283	465,137	256,776	6,868	2,345,109

- Installation:

  The installation plan for this subproject is captured in BTeV document #1207. The plan is to roll the magnets into the C0 Collision Hall at the first available shutdown after they are declared ready for installation. The Vertex Magnet or either Toroid assembly can be rolled into the C0 Collision Hall in any convenient 5 day Tevatron shutdown or maintenance period.

  The installation of the beryllium beam pipes will be delayed until the FY09 summer shutdown in order to protect these delicate components.

Response to CD-1 recommendations WBS1.1

- There were no CD-1 recommendations for the WBS1.1 subproject.

- Nevertheless, as a result of the general CD-1 recommendation to reevaluate the overall BTeV spectrometer installation schedule, a careful reexamination of the schedule for the installation of the WBS1.1 components has resulted in a much larger float in the WBS1.1 Open Plan schedule.